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AUTHOR Whitley, Bernard E., Jr.
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ABSTRACT

Research on the relationship between sex-role orientation and psychological well-being has been guided by one of three models. The congruence model holds that psychological well-being will be fostered only when one's sex-role orientation is congruent with one's gender; the androgyny model proposes that well-being will be maximized when one's sex-role orientation incorporates a high degree of both masculinity and femininity regardless of one's gender; the masculinity model posits that well-being is a function of the extent to which one has a masculine sex-role orientation. The adequacy of these three models was tested by means of a meta-analysis of 34 studies of the relationship between sex-role orientation and self-esteem, the indicator of psychological well-being most widely used in sex-role studies. The results of the meta-analysis were most supportive of the masculinity model, and found that the strength of observed relationships between sex-role orientation and self-esteem varied as a function of both the sex-role measure and the type of self-esteem measure used in the studies. The findings indicate that a relationship exists between masculinity and self-esteem in both sexes. (Author/NRB)

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Sex Role Orientation and Self-Esteem:

A Critical Meta-Analytic Review

Bernard E. Whitley, Jr.

University of Pittsburgh

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Requests for reprints should be sent to Bernard E. Whitley, Jr., Department of Psychology, University of Pittsburgh, Pittsburgh, Pennsylvania, 15260.

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Sex-Role Orientation and Self-Esteem:

A Critical Meta-Analytic Review

One of the feminist movement's major contributions to contemporary psychology has been the calling into question of long-standing assumptions concerning the relationship between psychological variables and sex-related variables such as gender and sex-role orientation (e.g., Frieze, Parsons, Johnson, Ruble, & Zellman, 1978; Unger, 1979; Weisstein, 1971). One of these relationships which has recently been the subject of considerable theoretical interest and empirical investigation is that between sex-role orientation and psychological well-being (cf. Maffeo, Note 1; Schaffer, 1980; Sobol & Russo, 1981; Whitley, 1980; Worrell, 1978).

A number of formal and informal models have been proposed, both to explain the relationship and to prescribe an ideal sex-role orientation for optimal well-being. Following a brief review of these models and of some of the methodological issues involved in testing them, this article will use meta-analytic techniques (e.g., Glass, 1977; Rosenthal, 1978) to test the adequacy of the models by examining the patterns of relationships found in studies of sex-role orientation and self-esteem, the most commonly-used indicator of psychological well-being in sex-role studies.

Models of the Relationship

Research on the relationship between sex-role orientation and psychological well-being has been guided by three competing theoretical models. These models are the congruence model, the androgyny model, and the masculinity model.

The congruence model. The most long-standing model of the relationship between sex-role orientation and psychological well-being is based on the assumption that masculinity and femininity are opposite poles of a single dimension. That is, one must have either a masculine or feminine sex-role orientation since these orientations are mutually exclusive and incompatible. This assumption leads to the hypotheses that well-being will be fostered only when one's sex-role orientation is congruent with one's gender and that such congruence is necessary for psychological well-being (e.g., Abraham, 1911/1949; Erikson, 1963; Kagan, 1964; Mussen, 1969). Although the congruence model has not received much attention in the recent professional literature, it may still form a part of informal theories of mental health. In his review of sex-role stereotypes and psychotherapy, for example, Whitley (1979) found that both therapists and lay persons tended to hold sex-typed mental health standards.

The concept of sex-role orientation has recently been reformulated to encompass two complementary dimensions of masculinity and femininity (cf. Bem, 1974, 1979; Constantinople, 1973; Spence & Helmreich, 1978), and the congruence model can be similarly reformulated. Under

such a model, psychological well-being would be a result of high masculinity and low femininity in men and of low masculinity and high femininity in women. Thus, Chevron, Quinlan, and Blatt (1978) found that persons who rated themselves high on psychological depression also rated themselves low on sex-typed traits and high on cross-sex-typed traits.

The androgyny model. The more recent emphasis on the two-dimensional nature of sex role has also led to the development of the androgyny model (e.g., Bem, 1974, 1979; Spence & Helmreich, 1978). This model assumes that masculinity and femininity are independent and complementary, rather than incompatible, dimensions. Persons can incorporate a high degree of both masculinity and femininity in their sex-role orientation (an androgynous orientation), incorporate a high degree of either masculinity or femininity and a low degree of the other (a masculine or feminine orientation), or incorporate a low degree of both (an undifferentiated orientation). The androgyny model proposes that one's psychological well-being will be maximized when one has an androgynous sex-role orientation, and suggests that such an orientation would "define a more human standard of mental health" (Bem, 1974, p. 162; see also Bem, 1976, 1978; Gilbert, 1981; Kaplan, 1976; Nickerson, 1977).

The masculinity model. The proposed relationship between androgyny and psychological well-being has been called into question by empirical findings which have suggested that the relationship is primarily

attributable to the masculinity component of androgyny, and that the influence of femininity on well-being is negligible (e.g., Antill & Cunningham, 1979; Kelly & Worrell, 1977; Silvern & Ryan, 1979). These findings suggest the masculinity model, in which one's psychological well-being is seen to be a function of the extent to which one has a masculine sex-role orientation, irrespective of one's gender.

Summary. These three models, then, have been proposed to describe the relationship between sex-role orientation and psychological well-being, and, in the cases of the congruence and androgyny models, to prescribe an ideal sex-role orientation which would maximize well-being. If any of these models are to be used with confidence as presciptions for well-being, they should be supported by empirical evidence that they accurately reflect the true relationship between sex role and well-being (Maffeo, Note 1). Each model has studies both supporting and failing to support it, and the first purpose of this meta-analysis is to seek a consensus by combining the results of the various studies.

Self-Esteem and Psychological Well-Being

Self-esteem was chosen as the indicator of psychological well-being for this meta-analysis for several reasons. First, self-esteem is related both theoretically and empirically to psychological well-being. High self-esteem, expressed as a positive self-evaluation, is considered by clinicians and researchers of differing theoretical orientations to be a healthy and desirable characteristic (cf. Bradburn, 1969; Diggory, 1966; Maslow, 1970; Meichenbaum, 1977), while low self-esteem

has been linked to such indicators of psychological distress as depression (cf. Beck, 1967; Wilson & Krane, 1980), neuroticism (Bagley & Evan-Wong, 1975), anxiety (Percell, Berwick, & Beigel, 1974), poor general adjustment (Ellis & Greiger, 1977; Rios-Garcia & Cook, 1975), and self-referal to mental health facilities (Poirer, Tetreau, & Strobel, 1979). Secondly, self-esteem has been the indicator of psychological well-being most commonly used in sex-role studies which met the criteria, outlined below, for inclusion in this meta-analysis. This wide usage provides a broad empirical base for the meta-analysis. Finally, the majority of self-esteem studies have used either the Bem (1974) Sex-Role Inventory (BSRI) or the Personal Attributes Questionnaire (PAQ; Spence, Helmreich, & Stapp, 1974, 1975) as a measure of sex-role orientation, providing an opportunity to examine the effects of the sex-role measure used on the results of the studies.

Methodological Issues

A consideration of the relationship between sex roles and self-esteem also requires a consideration of methodological factors which could influence the results of studies designed to measure that relationship. Two factors which will be considered here are the measurement of the constructs of sex-role orientation and of self-esteem.

Sex-role measures. The BSRI and the PAQ are the two scales most commonly used for the measurement of sex-role orientation in studies of psychological well-being (cf. Whitley, 1980). Although both scales

were designed to measure the same construct, they tend to be only moderately correlated (Kelly, Furman, & Young, 1978; O'Grady, Freda, & Mikula, 1979) and to differ somewhat in their classification of individuals into sex-role categories (Gaa & Liberman, Note 2; Kelly et al., 1978). In addition, Spence and Helmreich (1978, 1979) suggest that the PAQ has less of a social desirability bias than does the BSRI. Because of these differences, the two scales could be differentially related to self-esteem. A second objective of this meta-analysis will be to determine if the strength of the observed relationship between sex-role orientation and self-esteem varies as a function of the sex-role measure used.

Self-esteem measures. The scales used to measure self-esteem in sex-role studies fall into two categories (Wylie, 1974). The first category, global self-esteem, comprises a person's self-evaluation across a number of areas, such as feelings of adequacy and worth, feelings of being a "good" or "bad" person, physical appearance, personal skills, and sexuality. Examples of global self-esteem scales are those developed by Berger (1952), Coopersmith (1967), and Rosenberg (1965). The second category, social self-esteem, refers to a person's sense of adequacy or worth in social interaction with people in general. Social self-esteem scales thus tap a single dimension of self-esteem as oposed to the multidimensional approach of global self-esteem scales. The Janis-Field Feelings of Inadequacy Scale (JF; Robinson & Shaver, 1973) and the Texas Social Behavior Inventory (TSBI; Helmreich & Stapp,

1974; Helmreich, Stapp, & Ervin, 1974) are examples of social self-esteem scales.

Although measures of global and social self-esteem are moderately correlated, and thus show some convergence, they also load on seperate multimethod factors, indicating that they are also measuring somewhat different constructs (Van Tuinen & Ramanaiah, 1979). The difference in the two types of self-esteem opens the possibility that they might be differentially related to sex-role orientation. Flaherty and Dusek (1980), for example, have hypothesized that masculinity, because of its agentic orientation, is more closely related to self-esteem in the achievement domain, whereas femininity, with its communal orientation, is more closely related to what the authors called sociability self-esteem. These hypotheses were supported by data linking masculinity, but not femininity, to a measure of achievement self-esteem, and femininity, but not masculinity, to sociability self-esteem. Because of the differences in the self-esteem constructs and the empirical findings of Flaherty and Dusek, the third objective of this meta-analysis will be to determine if the observed relationship between sex-role orientation and self-esteem varies as a function of the type of self-esteem measure used.

Of the self-esteem scales used in the studies included in this meta-analysis, the JF and the TSBI were classified as measures of social self-esteem; the others were classified as measures of global self-esteem. Classifications were based on published descriptions of

the scales.

Meta-Analysis

Meta-analysis is a method of statistically combining the results of independent studies and using inferential statistics to aid in the evaluation of a body of research literature (e.g., Glass, 1977; Glass, McGaw, & Smith, 1981; Rosenthal, 1978). Meta-analysis is thus a quantitative evaluation of a set of related empirical studies which integrates the results of their statistical analyses, as opposed to the traditional literature review which uses qualitative techniques to integrate a body of literature. Meta-analysis therefore has both the advantage of statistical precision, and the consequent limitation of being unable to utilize qualitative data (cf. Cook & Leviton, 1980). It has, however, been judged to be superior to traditional literature reviews for integrating the results of quantitative studies (cf. Cooper & Rosenthal, 1980; Hedges & Olkin, 1980), such as those considered in the present analysis.

Meta-analysis provides overall effects size estimates for a set of studies based on a metric common to the studies being analyzed and overall Z-scores for the hypotheses tested by the studies. In addition, studies can be grouped into categories based on common characteristics, and the effect sizes of the categories can be tested for differences (cf. Glass et al., 1981).

Summary

A meta-analysis was conducted of studies of the relationship

between sex-role orientation and self-esteem in order to test the descriptive validity of the models which have guided research in this area. The primary question to be answered by this meta-analysis is: Does a relationship exist between sex-role orientation and self-esteem, and if so, what form does it take? Two other questions will also be investigated: (a) Does the relationship vary as a function of the sex-role measure used? (b) Does the relationship vary as a function of the type of self-esteem measure used? Finally, it has been proposed that the relationship between sex-role orientation and self-esteem is different in men and women (e.g., Jones, Chernovitz, & Hansson, 1978), so sex differences were also investigated.

Insert Table 1 About Here

Method

Selection of Studies

The studies which were analyzed are listed in Table 1. They were located through searches of Psychological Abstracts, Sociological Abstracts, and Women Studies Abstracts, and a request for papers was published in the APA Monitor to locate unpublished studies. The studies in Table 1 were selected for analysis because they (a) assessed sex-role orientation using either the BSRI or the PAQ, (b) used standardized instruments to measure self-esteem, and (c) scored their sex-role measures to reflect a bidimensional operationalization of sex role. The

first criterion limits the scope of the analysis slightly since other sex-role scales, such as the PRF ANDRO (Berzins, Welling, & Wetter, 1978) and those based on the Adjective Check List (Heilbrun, 1976) and the California Psychological Inventory (Baucom, 1976), exist. However, only one study on the topic of interest using any of these measures has been published (Berzins et al., 1978), and it also reported results for the BSRI. Limiting the analysis to studies using the BSRI and the PAQ allows assessment of the effects of the instruments on the results of the studies using them. The last criterion led to the exclusion of one study using an older, unidimensional sex-role instrument (Connell & Johnson, 1970), and two which categorized subjects as either androgynous versus nonandrogynous, (Nevill, 1977), or traditional versus nontraditional in sex-role orientation (Bedian & Zarra, 1977). In none of these cases could the independent effects of masculinity and femininity be determined, and hence could provide no data relevant to the hypotheses in question.

When sufficient information for the analysis was not available in the published version of a study which met the inclusion criteria, the necessary information was requested from the author(s). An additional six studies were excluded because the information requested was not available.

The final sample consisted of 34 studies; 28 studies used both male and female subjects and 6 used only female subjects, resulting in 62 observations of the relationship under study. These studies included

a total of 6328 women and 5692 men as subjects.

Procedure

Common metric. The common metric on which effect sizes were compared was the proportion of self-esteem variance accountable for by masculinity and femininity. In correlational studies effect size was operationalized as the squared partial correlation coefficient of masculinity with self-esteem controlling for femininity and of femininity with self-esteem controlling for masculinity. Partial correlation coefficients were chosen in order to determine the independent relationships of masculinity and femininity to self-esteem. It was deemed necessary to control for the correlation between masculinity and femininity because, although the correlations found in the studies reviewed were usually quite small, correlations as large as .45 were found in some studies. In factorial studies, effect size was operationalized as eta-squared (cf. J. Cohen, 1977).

Meta-analytic statistics. The studies were grouped into eight categories, based on sex of subject, sex-role measure used (BSRI, PAQ), and type of self-esteem measure used (social, global). Mean effect sizes and combined probability levels (Zma) were computed for the studies, both overall and within categories. Zma was calculated by finding the normal deviate (Z) associated with each effect size's test statistic and dividing their sum by the square root of the number of studies involved (cf. Rosenthal, 1978). The effects of sex of subject, sex-role measure, and self-esteem measure were assessed by treating the

masculinity and femininity effect sizes of the individual studies as scores in seperate 2 x 2 x 2 ANOVAs.

Results

Masculinity and femininity effect sizes (ES) and their associated Z-scores are shown in Table 1. Initial analyses found no main effect for sex of subject and no interactions of sex with the other factors. Mean effect sizes were therefore collapsed across sex for further analyses.

Overall Results

The overall results indicate that both masculinity (ES = .271, Zma = 51.05) and femininity (ES = .030, Zma = 12.25) are positively related to self-esteem, with masculinity carrying the greater weight. These results support a weak version of the androgyny hypothesis, since although the femininity effect size is statistically significant, femininity can account for only about 3% of the self-esteem variance. Thus, the relationship between the variables may have little practical significance despite its statistical significance (cf. J. Cohen, 1977; S.A. Cohen & Hyman, 1979). Masculinity, on the other hand, can account for about 27% of the self-esteem variance, a relationship which could be of practical significance. This overall relationship is moderated by the effects of both sex-role instrument and type of self-esteem measure used.

Insert Table 2 About Here

Effects of Measurement Instruments

The effects of sex-role measure and type of self-esteem measure are shown in Table 2, which breaks the mean masculinity and femininity effect sizes down by sex-role and self-esteem measure. The effect sizes of both masculinity and femininity varied as a function of sex-role instrument. Use of the PAQ resulted in stronger relationships between self-esteem and both masculinity ($F(1,58) = 24.46$, $p < .001$) and femininity ($F(1,58) = 8.06$, $p = .006$). Masculinity effect sizes also varied as a function of type of self-esteem measure used, with a stronger relationship being found with social self-esteem measures ($F(1,58) = 35.70$, $p < .001$). These sex-role instrument and self-esteem type differences raise important methodological questions to be discussed below.

Discussion

The overall results of the meta-analysis are consistent with a weak version of the androgyny hypothesis, with both masculinity and femininity being positively related to self-esteem, but with masculinity carrying more weight. The statistically significant results for femininity may, however, be of little practical significance, leaving the best support for the masculinity hypothesis. The results also raise important methodological questions.

Sex-Role Orientation as a Cause of Self-Esteem

Although the overall results are clear, they are open to a variety of interpretations. The most inviting interpretation is the causal one, that a certain sex-role orientation leads to high (or low) self-esteem. Although the studies reviewed do not contradict such an interpretation, neither do they unambiguously support it. These studies, even though some are cast in an analysis of variance format, are one-time correlational analyses, and as such can say nothing about causation. Therefore, whereas the hypotheses outlined in the introduction were stated in prescriptive form, as ideal states which might foster psychological well-being, the studies conducted until now have only tested their descriptive adequacy. That is, although the masculinity hypothesis appears to best describe the relationship between sex-role orientation and self-esteem, it cannot be said that a masculine orientation causes high self-esteem.

The ideal causal analysis would be a true experiment, with subjects randomly assigned to sex and sex-role orientation, with self-esteem as the dependent variable. Such an experiment is, of course, impossible to conduct, since people cannot be randomly asigned to gender and sex-role conditions. However, some quasi-experimental methods, such as cross-lagged panal correlation analysis, which looks at patterns of correlations across time (e.g., Kenny, 1979), could offer stronger clues to causality than does simple correlation, and such methods should be utilized in future research investigating the relationship between

sex-role orientation and indicators of psychological well-being.

Methodological Considerations

The results of the present study raise several methodological issues which must be taken into consideration in future research: shared method variance in the measurement of sex-role orientation and self-esteem, the dimensionality of self-esteem, the meaning of sex role, and the complexity of the hypotheses tested and the methods used to test them.

Shared method variance. Shared method variance refers to the fact that two psychometric instruments can be correlated not only because of similarities in the constructs they measure, but also because of similarities in the way in which they measure the constructs (Campbell & Fiske, 1959). One possible source of shared method variance in the studies reviewed is the exclusive use of socially desirable traits in sex-role inventories (cf. Kelly, Caudill, Hathorn, & O'Brien, 1977; Kelly & Worrell, 1977; Spence et al., 1979; Worrell, 1978). Both the BSRI and the PAQ (but not the Extended PAQ, Spence et al., 1979) measure sex-role orientation by having respondants rate the degree to which they possess socially desirable, but not undesirable, sex-role-related traits (Bem, 1974, 1979; Spence & Helmreich, 1978, 1979). Self-esteem inventories also have respondants rate themselves on the degree to which they possess socially desirable traits or engage in socially desirable behaviors (cf. Wylie, 1974). It would thus appear that the operational definitions of sex-role orientation and self-esteem overlap to some

extent.

Three sources of evidence support the possibility of overlapping measurement. First is the research of Spence and her collegues (e.g., Spence et al., 1979), who have added scales of negative masculinity and femininity to their sex-role instrument. Their finding that self-esteem is positively related to desirable characteristics and negatively related to undesirable characteristics suggests that self-esteem is as much related to the valence of the traits used in sex-role inventories as to their sex-role orientation (see also Schwarz, Note 9).

Secondly, if sex-role instruments or their scales were measuring self-esteem in addition to sex-role orientation, one would expect lower correlations between self-esteem and instruments or scales containing fewer socially desirable traits than with those containing more socially desirable traits. Two examples of this situation are seen in the present analysis. In the one case, there is some evidence that the original version of the BSRI (but not the revised version, cf. Bem, 1979) contains some traits which are somewhat socially undesirable (cf. Gilbert, Strahan, & Deutsch, 1978; Pedhazur & Tetenbaum, 1979). If sex-role instruments were measuring self-esteem in addition to sex-role orientation, one would then expect a lower correlation between self-esteem and the BSRI relative to the correlation between self-esteem and a sex-role measure with a higher proportion of socially desirable traits. In fact, the present meta-analysis found lower correlations between self-esteem and the BSRI than between self-esteem and the PAQ,

which has a higher proportion of socially desirable traits (Spence & Helmreich, 1978, 1979). Likewise, there is some evidence that feminine traits are generally rated to be somewhat less socially desirable than masculine traits (cf. Broverman, Vogel, Broverman, Clarkson, & Rosenkrantz, 1972), so that if the shared variance hypothesis were true, a stronger relationship would be found between masculinity and self-esteem than between femininity and self-esteem. This pattern of relationships was also found in the present study.

Finally, it should be noted that the self-esteem measures which have the strongest relationship to masculinity -- the JF and the TSBI -- deal to a large extent with assertiveness in social situations. Since items on the masculinity scales tend to reflect assertion and an agentic orientation, the masculinity and social self-esteem scales may be tapping similar latent constructs. In addition, items from the BSRI masculinity scale have been used as part of a self-esteem measure (Stake, 1979), providing further indication of the relationship between "masculine" personality traits and self-esteem.

In sum, then, it is possible that measures of sex-role orientation (especially masculinity) and self-esteem are measuring the same construct, at least to some extent, and this may account for the empirical relationships which have been found. To clarify this situation, measures of masculinity, femininity, and self-esteem should be analyzed by the multitrait-multimethod matrix technique (Campbell & Fiske, 1959) to determine the extent to which their shared variance is

due to shared method.

Dimensionality of self-esteem. Self-esteem is generally held to be a multidimension construct (e.g., Fleming & Watts, 1980; Shavelson, Hubner, & Stanton, 1976; Wylie, 1974), and the results of the meta-analysis indicate that some dimensions of self-esteem may be more closely related to sex-role orientation than others. Specifically, social self-esteem was found to have a stronger relationship with masculinity than was global self-esteem. Since social self-esteem is only one component of global self-esteem, these results suggest that the relationship between global self-esteem and masculinity is primarily attributable to the social component, with the other self-esteem components having either little or a negative relationship with sex-role orientation. The dimensional nature of the self-esteem construct and the relationship of sex-role orientation to those dimensions merit further investigation.

The meaning of sex role. As Angrist (1969) and others (e.g., Spence, 1979; Spence & Helmreich, 1978) have noted, the term "sex role" has several meanings. Anthropologically, sex role refers to how one's position in the societal structure is determined by sex; sociologically, to how one's relationships to other people are determined by sex; and psychologically, to how one's personality and behavior are determined by sex. It is important to bear in mind that the sex-role instruments used in the studies analyzed here measured only one aspect of psychological sex role -- personality traits -- and that

the results should be generalized only tentatively to other aspects of sex role, if they are to be generalized at all. For example, whereas the results of the present meta-analysis found a modest positive relationship between psychological femininity and self-esteem, a number of studies have linked adherence to the traditional feminine role, defined in terms of social position, with psychological distress (cf. Gove, 1980), and Spence and her collegues (Helmreich, Spence, & Holahan, 1979; Spence & Helmreich, 1980; Spence, Helmreich, & Sawin, 1980) have found no relationship between measures of sex role behaviors and self-esteem. Future research on the relationship between sex role and psychological well-being should specify the level of analysis (anthropological, sociological, psychological) of the sex-role definition being used, and take care in generalizing findings beyond that level.

Complexity of hypotheses and methods. Within the set of studies analyzed, only a few simple hypotheses relating to the relationship between sex-role orientation and self-esteem were proposed and tested. It is possible that this relationship could be affected by other variables, such as the centrality of sex role to one's self-concept (e.g., Bem, 1981; Markus, 1977; Markus, Crane, Bernstein, & Siladi, in press; Markus, Crane, & Siladi, Note 10), or the degree of congruence between one's ideal and real sex-role orientations (e.g., Garnets, 1979; Garnets & Pleck, 1979). Investigation of more complex relationships such as these should be one goal of future research.

These relationships should also be investigated using more sophisticated statistical tools. Since both sex role and self-esteem (or, more generally, psychological well-being) are latent, rather than directly observable, variables, each construct should be measured by multiple rather than single indicators, and the data should be analyzed accordingly. The statistical tools for such analyses are available (e.g., Bentler, 1980) and should be used.

Conclusions

The results of the meta-analysis indicate that there is a relationship between masculinity and self-esteem in both sexes. The evidence at hand does not, however, allow any inferences of causality. The exclusive use of socially desirable traits in sex-role inventories raises the question of the extent to which the relationship is a function of shared method variance, since self-esteem instruments also measure the social desirability of the self-concept. In addition, the multidimensional nature of the self-esteem construct and the results of the meta-analysis suggest that sex-role orientation may be differentially related to different aspects of self-esteem. Finally, investigators should be careful to specify the level of sex-role analysis which they use in their studies, and should direct their attention to variables which might moderate the relationship between sex role and self-esteem. In conclusion, it can be said that although a relationship does exist between sex-role orientation and self-esteem, more research is needed on the nature of the constructs to clarify the

relationship before causal research can begin.

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Table 1

Studies Included in the Meta-analysis

	Esteem Measure	N	Masculinity ES[a]	Masculinity Z	Femininity ES[a]	Femininity Z
Women Responding to BSRI						
Bem, 1977	TSBI	71	.112	2.86	.035	1.57
Bennett, Note 3	TSBI	68	.397	5.51	.001	0.24
Berzins et al., 1978	own	359	.200	8.85	.019	2.60
Calhoun, 1979	POI	122	.040	2.22	-.003	-0.62
DeFronzo & Boudreau, 1979	RSEI	367	.141	7.41	.015	2.36
DeGregorio & Carver, 1980	JF	108	.203	4.87	-.001	-0.39
Garnets, 1979	RSEI	203	.240	7.34	.022	2.14
Giguet, 1977	CSEI	65	.078	2.27	-.014	-0.96
Hoffman & Fidell, 1979	RSEI	369	.331	11.80	.007	1.65
Karam, 1975	TSCS	98	.000	-0.03	.001	0.34
Kimlicka, 1978	JF	204	.372	9.33	.004	0.86
Loxley, 1977	TSCS	47	.168	2.86	.158	2.77
Moore & Rosenthal, 1980	KSEI	200	.055	3.34	.002	0.63
Peterson, Note 4	TSCS	100	.000	0.21	.021	1.43
Puglisi & Jackson, 1980	TSBI	1040	.324	19.62	.013	3.72
Schiff & Koopman, 1978	IAV	100	.186	4.46	.080	2.85
Silvern & Ryan, 1979	MSGO	103	.260	5.43	.000	0.00
Watson, Note 5	RSEI	148	.020	1.73	.003	0.64
Wells, 1980	RSEI	64	-.093	-2.46	-.009	-0.76

Table 1 Continued

	Esteem Measure	N	Masculinity ES[a]	Masculinity Z	Femininity ES[a]	Femininity Z
Whitley & Golin, Note 6	JF	140	.254	6.27	.000	0.13
Women Responding to PAQ						
Antill & Cunningham, 1978	BSEI	133	.325	6.98	.000	-0.14
Colker & Widom, 1980	TSBI	70	.498	6.18	.085	2.46
Gerdes et al., Note 7	TSBI	56	.518	5.57	.022	1.11
O'Connor et al., 1978	TSBI	48	.504	5.10	.040	1.36
Olds, 1980	RSEI	117	.178	4.72	.013	1.22
Olds & Shaver, 1980	SDI	110	.349	6.59	-.025	-1.64
Priest et al., Note 8	TSCS	106	.248	5.37	.164	4.30
Schwarz, Note 9	TSBI	76	.494	6.43	.122	3.09
Spence & Helmreich, 1978						
College Sample	TSBI	357	.490	14.03	.049	4.21
High School Sample	TSBI	375	.432	13.64	.050	4.32
Spence et al., 1975						
Sample 1	TSBI	282	.696	10.85	.111	5.73
Sample 2	TSBI	205	.613	10.83	.045	3.05
Spence et al., 1979	TSBI	363	.460	13.80	.036	3.64
Ward, 1974[b]	TSBI	54	.425	5.05	-.022	-1.07

Table 1 Continued

	Esteem Measure	N	Masculinity ES[a]	Masculinity Z	Femininity ES[a]	Femininity Z
		Men Responding to BSRI				
Bem, 1977	TSBI	93	.176	4.16	.006	0.75
Bennett, Note 3	TSBI	90	.436	6.65	-.004	-0.56
Berzins et al., 1978	own	191	.148	5.49	.000	-0.25
DeFronzo & Boudreau, 1979	RSEI	243	.256	8.32	.000	0.17
DeGregorio & Carver, 1980	JF	105	.128	3.75	-.004	-0.61
Garnets, 1979	RSEI	227	.260	8.11	.109	5.08
Karam, 1977	TSCS	52	-.008	-0.63	-.056	-1.70
Loxley, 1977	TSCS	51	.166	2.96	.054	1.10
Moore & Rosenthal, 1980	KSEI	200	.179	6.21	.002	0.63
Peterson, Note 4	TSCS	117	.050	2.43	.081	3.11
Puglisi & Jackson, 1980	TSBI	1029	.396	21.69	.007	2.66
Silvern & Ryan, 1977	MSGO	104	.250	5.35	.000	0.00
Watson, Note 5	RSEI	72	.060	2.08	.060	2.08
Wells, 1980	RSEI	39	.028	1.02	.013	0.70
Whitley & Golin, Note 6	JF	118	.241	5.59	-.058	-2.62

Table 1 Continued

	Esteem Measure	N	Masculinity ES[a]	Masculinity Z	Femininity ES[a]	Femininity Z
Men Responding to PAQ						
Antill & Cunningham, 1979	BSEI	104	.081	2.94	.013	1.14
Gerdes et al., Note 7	TSBI	19	.517	3.12	.166	1.75
O'Connor et al., 1978	TSBI	43	.125	2.34	.001	0.15
Olds, 1980	RSEI	98	.323	5.96	.075	2.73
Olds & Shaver, 1980	SDI	75	.297	4.97	-.008	-0.79
Priest et al., Note 8	TSCS	1196	.149	13.83	.095	10.89
Schwarz, Note 9	TSBI	69	.430	5.77	.017	1.08
Spence & Helmreich, 1978						
College Sample	TSBI	357	.497	14.10	.011	2.00
High School Sample	TSBI	375	.406	13.23	.062	4.77
Spence et al., 1975						
Sample 1	TSBI	248	.511	11.84	.011	1.62
Sample 2	TSBI	101	.325	6.07	.080	2.86
Spence et al., 1979	TSBI	220	.425	10.35	.034	2.75
Ward, 1974[b]	TSBI	56	.448	5.27	.079	2.11

Note: BSRI = Bem (1974) Sex Role Inventory; PAQ = Personal Attributes Questionnaire (Spence et al., 1974, 1975); BSEI = Berger (1952) Self-Esteem Inventory; CSEI = Coopersmith (1967) Self-Esteem Inventory; IAV = Index of Adjustment and Values (Bills et al.,1951); JF = Janis-Field Feelings of Inadequacy Scale (Robinson & Shaver, 1973); KSEI = Keeves (1973)

Self-Esteem Inventory; MSGO = Miskimins Self-Other Discrepancy Scale (Robinson & Shaver, 1973); own = scale developed for that study; POI = Personal Orientation Inventory (Shostrom, 1964); RSEI = Rosenberg (1965) Self-esteem Inventory; SDI = Self-Deprecation and Insecurity Scale (Sadd et al., 1978); TSBI = Texas Social Behavior Inventory (Helmreich & Stapp, 1974; Helmreich et al., 1974); TSCS = Tennessee Self-Concept Scale (Fitts, 1965).

[a]Effect size: proprtion of variance accounted for.

[b]Cited in Spence and Helmreich (1978).

Table 2

Mean Effect Sizes and Z-Scores of Effect Sizes
Broken Down by Sex-Role Measure and Type of Self-Esteem Measure

	Social Self-Esteem		Global Self-Esteem	
	BSRI	PAQ	BSRI	PAQ
N of Studies	11	19	24	8
N of Subjects	3066	3374	3641	1939
	Masculinity			
Mean Effect Size	.276	.464	.126	.244
Zma	27.23	37.53	19.74	18.16
	Femininity			
Mean Effect Size	.000[a]	.053	.022	.041
Zma	-1.73	10.78	5.31	6.26

Note: Effect size = proportion of common variance; BSRI = Bem (1974) Sex-Role Inventory; PAQ = Personal Attributes Questionnaire (Spence et al., 1974, 1975).

[a]Unrounded value = -.00009.